

NAVAL WAR COLLEGE
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MARKETING NETWORK CENTRIC WARFARE

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Maritime Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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CONTENTS

REPORT DOCUMENTATION PAGE	ii
INTRODUCTION	1
NCW'S TARGET MARKET	2
NCW'S MARKETING MIX	4
Product	5
Price	8
Place	10
Promotion	12
CONCLUSION	15
NOTES	16
BIBLIOGRAPHY	19

INTRODUCTION

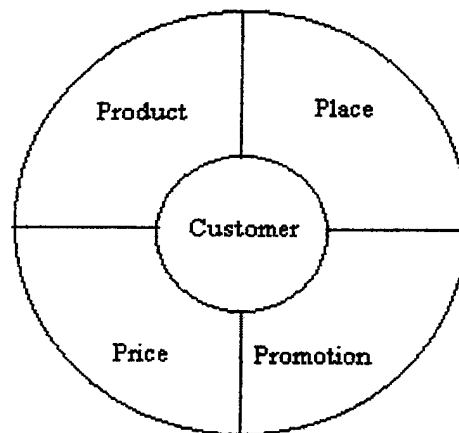
Network centric warfare is the name of the Navy's latest concept for future warfighting and operations other than war. In a recent seminar session, fellow students of the Naval War College discussed network centric warfare (NCW). Non-Navy members as well as many Navy members admitted they did not know what NCW meant before reading about it for class. Some called it a Navy idea which has not crossed over to the other services. Others quickly criticized the concept and displayed their cynicism. The same critiques can be found in professional journals such as Proceedings.¹

To overcome these doubts and resistance to NCW, increase recognition and acceptance, and prove its worth, advocates should market network centric warfare. In developing the NCW concept, advocates adapted a successful business concept (network centric operations) to the military. They analyzed firms such as Wal-Mart and Deutsche Morgan Grenfell, which upon instituting network centric systems, obtained information superiority, competitive advantages, and financial success.² Now advocates must borrow from the business world once again in order to move NCW from being a Navy concept to a viable joint product. Marketing is the key tool to effectuate this transition. In the business world, marketing is defined as "the performance of activities which seek to accomplish an organization's objectives by anticipating customer or client needs and directing a flow of need-satisfying goods and services from producer to customer or client."³ Hence, advocates must perform a series of activities to accomplish their objective of successfully implementing NCW.

So what are these activities that NCW advocates must perform? A marketing strategy outlines these activities and organizes them under two main headings: the target market and the marketing mix. The target market is the customer, the group of people to whom one is trying to appeal. Here NCW advocates must decide who they would like to influence first. Once decided, they must then create a marketing mix tailored to that customer. The classic marketing mix consists of four elements: product, price, place, and promotion.⁴ (Figure 1

illustrates these marketing strategy components, with the focus on the customer.) Each element will require NCW advocates to make numerous decisions and perform accordingly. As with any new product, and NCW is certainly in this category, a marketing strategy can help ensure successful implementation. In this framework, this paper will propose an effective NCW marketing strategy by first ascertaining its target market and then its corresponding marketing mix.

Figure 1
Marketing Strategy Components: Target Market (Customer) and Marketing Mix⁵



NCW'S TARGET MARKET

Again, the target market is that group of people to whom one is trying to sell. It defines who the intended customers are.⁶ In the case of NCW, it will define who advocates can influence for the greatest impact. Because customers often vary in characteristics such as demographics, behavior, or geography, it is best to segment the customers. That is, customers who are similar in some meaningful way should be grouped together. With a better understanding of the group characteristics, the seller/advocates can tailor the marketing mix to this target market, appealing to the group preferences.⁷

With NCW, several target markets exist. First, there is Congress and the American public. NCW advocates a new way of fighting wars and handling operations other than war. It is important that Congress and the American people support this effort, not only as an idea but with financial backing. NCW will require a fundamental shift in the way the U.S. military does business; changing technology, doctrine, and organization is going to take a lot of time, effort, and money. Congress, acting as the people's agent, is the only source of funding. If supporters do not appeal strongly to Congress, NCW may simply remain a concept.

A second NCW target is the operational commanders. These leaders translate the national-strategic or coalition/alliance goals into military plans and actions. They are also responsible for the education and training of those who serve under them.⁸ Hence these commanders will play a large role in implementing NCW. They are the ones who will decide whether, where, and how to insert NCW into the military plans and oversee its execution. This group of leaders is senior in rank, has twenty-plus years of service, is relatively older than subordinates, oversees joint services, and is generally less experienced in the technical aspects of information technology than subordinates. If these operational commanders do not believe in the capabilities or see the benefits of this new warfare, they will likely not use it. Again, without properly marketing these capabilities and benefits, NCW may stay on the shelf.

Yet another target market for NCW is the tactical military--the soldiers, sailors, airmen, and marines who will be hands-on with the actual execution of NCW. These members are, on average, younger than the operational commanders and more experienced in and more comfortable with computers. Those thirty years of age and younger have probably grown up with computers and video games, learning how to use computers in school. This gives them the technical advantage in understanding exactly how the physical NCW systems work.

One could segment the market for this product in various ways and then develop a marketing mix for each segment. This paper, however, will concentrate on the operational commanders as the target market. As stated above, these commanders will be responsible for incorporating NCW into plans and actual implementation. This includes educating and training their subordinates and providing an environment conducive to innovation.

Advocates must tailor the marketing mix to these commanders to ensure the success of NCW at this critical level. Once these commanders are on board with the idea, their influence should flow up and down the chain of command, furthering development and use of the present concept. They can also help sell the idea to Congress. Thus this segment provides a great opportunity for advancement.

NCW'S MARKETING MIX

The marketing mix is the group of variables that the organization controls which are meant to satisfy the target market. This basic marketing principle consists of four main variables or the four Ps: product, price, place, and promotion.⁹ The organization must make many decisions in these four key areas, always centering on the target market. This mix will change as the product goes through the four phases of its life: introduction, growth, maturity, and decline. At each phase, the organization must reassess the situation and adapt the four Ps to be successful. Specifically for NCW, how can advocates best shape the NCW product, price, place and promotion around the operational commanders to greatest effect? Because NCW is a new concept, the proposed marketing strategy will answer this question as the variables relate to the crucial introductory phase of NCW. Thus, by focusing on the operational commanders, advocates can tailor the marketing mix to enable a better implementation of NCW.

Product

The product is the “need-satisfying offering” of an organization.¹⁰ It consists of three parts: the product idea, branding, and packaging. Together these elements help to define the product.

The product idea includes, predictably, the physical features but also items such as accessories, installation, instructions, service, and product line.¹¹ These traits combine to satisfy a need.

So what is the NCW product idea? David S. Alberts, John J. Garstka, and Frederick P. Stein define NCW as

an information superiority-enabled concept of operations that generates increased combat power by networking sensors, decision makers, and shooters to achieve shared awareness, increased speed of command, higher tempo of operations, greater lethality, increased survivability, and a degree of self-synchronization. In essence, NCW translates information superiority into combat power by effectively linking knowledgeable entities in the battlespace.¹²

Within this definition lies a physical product: a network of sensors, decision makers, and shooters. Hence technology plays a critical role. Development of effective joint sensor and engagement grids is necessary as is an information backplane capable of integrating the data coming from all of the various sources.¹³ Operational commanders must co-lead this development with contractors and military researchers. They are in the prime positions to shape NCW’s physical product. Operational commanders have experienced people that can provide requirements and specifications in order for the physical systems to work. They can also test the equipment and evaluate its effectiveness, providing feedback to improve the systems.

Participation by the operational commanders in the development of the physical systems is very important. One of the criticisms of NCW is its lack of specificity in terms of technological systems.¹⁴ As a vision, this may be fine, but it is time to move beyond labeling NCW as a concept and turn it into a product. Operational commanders can help make this happen. The Goldwater-Nichols Department of Defense Reorganization Act of 1986 gave

the commanders in chief responsibility for determining requirements for military capabilities. After review and integration by the Chairman, Joint Chiefs of Staff, the services are then supposed to fill these requirements.¹⁵ Hence, the operational commanders do have the capacity to identify the systems necessary to make NCW reality. They can push for the technological systems/grids which will give specificity to NCW--and this is where marketing helps.

Beyond the physical product are NCW's services or "satisfiers." As described in the above definition of NCW, the grids produce information superiority. This allows commanders to quicken the pace of operations if they so desire. With better knowledge of the enemy's actions, they can efficiently maneuver to stunt the enemy's capabilities. Commanders thus have greater flexibility in deciding when and where they will engage. They can also reduce the size of the engaged forces due to more precise information, thereby reducing the size of the footprint. All in all, forces become more lethal to the enemy, more survivable, and thus more powerful.¹⁶ NCW's value goes beyond the grids.

NCW must come with additional special services in order to ensure its effectiveness and efficiency. This is because the grids can be classified as industrial goods, and more specifically as installation goods. They are durable capital items.¹⁷ As such, they need accompanying accessories, installation, and instructions. In NCW, these are the changes in organization, doctrine, and process that need to occur at the same time that technology is developing. NCW is a paradigm shift from platform-centric warfare. This necessitates a new way of thinking. The organization, doctrine, and other processes must advance the physical product in order to produce NCW's maximum effectiveness and efficiencies.¹⁸ Thus, these changes play an equally important role in development. Advocates must again use marketing to elicit the assistance of operational commanders in defining what these changes will be.

A second element of the product is branding. Branding identifies the product through the use of a name, term, design, or symbol.¹⁹ Commercial products use brand names and

trademarks. Branding serves to distinguish the product and give customers a sense of its quality. If done correctly, branding develops loyal customers because the customers know that the brand meets their quality expectations. The customers will accept new products bearing the same name (product extension). In regards to NCW, advocates need to improve branding. The product name is very important. Presently, NCW is predominantly a Navy term. As stated in the introduction, many non-Navy military members have not heard of the term. Per an informal, small random sample, even those in the Navy are somewhat disenchanted with the long and tongue-twisting/difficult-to-say name.

The NCW concept, however, is in line with Joint Vision 2020's focus on full spectrum dominance. Through the evolvment and propagation of information technologies and innovation in people and organizations, the military will achieve information superiority, the key enabler to the vision.²⁰ Thus the quest for co-evolution of technology, organizations, and doctrines along with the resultant information superiority resides in both the Navy and joint arenas. The Army, too, is acting on these concepts under the umbrella of Force XXI.²¹ The problem: the services do not use the same "brands." This means that though the services are thinking similarly, they do not yet share a common language or interoperability in this area. Hence, without a common understanding of NCW, it is more difficult to get the backing of the other services and create synergy.

NCW must become a joint concept and not simply be associated with the Navy. Branding can help. Advocates must create a name that all forces share and use. Operational commanders must be able to talk freely with subordinates of all branches and know that these subordinates understand what they mean. The name must also be easy to say and easy to remember. A shorter name or a catchy acronym will flow off the tongue more easily and thus be used more. The name must also encompass jointness, for such integration is vital for the military to succeed. Operational commanders understand that each service has its unique capabilities, but it is only in integrating these capabilities that they create the synergy which increases their effectiveness. This integration demands interoperability and removal of

stovepipes. Changes in technology complicate integration, but to get the most out of these advances, it is absolutely necessary.²² Through the use of branding, operational commanders will be distinctively aware of all of the separate products that fall under the NCW umbrella (such as the Navy's Cooperative Engagement Capability system). This in turn will lead to more immediate acceptance (due to brand or name recognition) and foster greater interoperability.

Packaging, a third characteristic, entails the physical container/covering of the product. A good package design both protects and promotes the product.²³ With installation goods, as NCW is, packaging itself is not very applicable.

Price

So what is the price for NCW? The up-front costs will be high. As budget concerns are never far from the minds of operational commanders, advocates must stress ways to decrease these up-front costs and emphasize the long-term benefits. The largest up-front cost will likely be the cost of the grid systems and the information structure that will ensure people receive the information they need. The military can reduce the price tag of this installation good (durable capital item), however, by working closely with contractors and using commercial off-the-shelf technology. The commercial sector already has many technologies that can become components of the systems. Instead of reinventing these components, the military can invest in these technologies and adapt them as necessary. For example, operational commanders will surely want additional network security and protection. This partnership with the commercial sector will accommodate such requests while costing less and requiring less training for subordinates who may already be familiar with the commercial technology. Due to the competitive nature of the technology market, bidders are likely to quote competitive prices.

Furthermore, the military should consider leasing rather than outright purchasing. With leasing, the military would not pay out all at once and could thus invest its capital in

other areas. This brings down the opportunity cost. Thus, operational commanders do not have to request exclusive investment in NCW to the detriment of other projects. Leasing also makes it easier to make changes to the systems if future needs change.²⁴ As operational commanders experiment with NCW and see a need to change requirements, they will be able to request those changes in the lease. Leasing is therefore a flexible and smart option.

Introducing these systems and their associated changes in doctrine and organization through an incremental approach will also help to spread out the costs. Operational commanders will not have to request all NCW systems at once. For example, there are a multitude of sensor systems that eventually can be incorporated into the central information system. However, the commanders need not request them all initially. This should help to allay their initial budgetary concerns. Then, through participation in the experiments, they will see first hand the value NCW adds and how this outweighs the costs. They will be more likely to request further NCW systems. Good branding will thus help to reduce the selling time and effort.²⁵ With all systems consolidated under one name, be that NCW or something else, the operational commanders' brand loyalty (insistence on the NCW brand products) will help increase funding.

Production and maintenance costs also decrease as quantities increase. Therefore, under a joint project, if several services require the same NCW system, the cost of the system will drop. This is certainly cheaper and more cost-effective than having each service establish its own system. It produces interoperability as well.²⁶ Operational commanders will benefit from these reduced costs and interoperability.

NCW's performance will offset these up-front costs down the road. Thus there will be a return on investment. This return includes a savings in time, manpower, and money in future operations; by sharing information with geographically dispersed personnel, networks move information vice people. Operational commanders can maneuver accordingly and produce greater combat power with fewer assets.²⁷ Thus, NCW provides the operational commander greater flexibility. Advocates should do a thorough cost/benefit analysis,

detailing the investment costs and these returns on investment. They should also answer the question, What is the price of not introducing NCW? Further details on the investment strategy and the acquisition process for all of these elements, while important, are beyond the scope of this paper.

Place

Place implies getting the product in the right quantities to the right location at the right time.²⁸ Marketers must satisfy the needs of the customer when answering the question of what is "right." In the case of this NCW strategy, advocates must work around the operational commanders' viewpoint of the right quantities, location, and time.

The operational commanders must help define the flow of the distribution channel (the series of organizations or "individuals who participate in the flow of goods and services from producer to final user or consumer").²⁹ Through experimentation, the operational commanders will develop a better sense of what products they will need in what quantities and when. They will help determine which products work best and provide input to the changes in doctrine, organization, etc. Realizing that they can not develop all systems at once, the commanders can work together to prioritize the systems. Again, it is fundamental that the operational commanders be the focal point in this process. They are the leaders who have to meet the operational objectives and who know best how to employ their limited resources to obtain these objectives. Through active involvement in the process, the operational commanders will increase their awareness and that of their subordinates. They will come to understand that by linking their geographically dispersed forces, they gain information superiority which leads to greater combat power and less physical movement of troops and other resources.³⁰ The NCW information channel thus replaces some of the present physical distribution channel.

Presently, the military is experimenting with NCW at the service level. Though this is commendable, NCW advocates should promote using the operational commanders to

focus experimentation more closely at the joint/operational command level. The Navy, for example, has completed a lot of testing on its Cooperative Engagement Capability system, networking sensors, decision makers, and shooters to improve air defense.³¹ It will test the system even further in Spring 2001 with a fleet battle experiment.³² While these efforts are noteworthy, now is the time to place greater emphasis on NCW efforts at the joint level. Putting the operational commanders in charge of the development and experimentation will ensure true integration and interoperability of NCW efforts and wise use of limited funding and other resources.

The Unified Command Plan gives U.S. Joint Forces Command responsibility for examining fresh joint warfighting concepts along with joint warfighting experimentation.³³ So, it is appropriate for this operational commander to take the lead in exploring NCW. As new systems are developed, the command can test the ideas and integration in the Joint Warfighting Center. They can review the product at various stages, providing feedback at each step to ensure proper development. It is going to take a long time to introduce the complex physical NCW products, but using an iterative process will speed up the results.

The experimentation process must reach beyond U.S. Joint Forces Command. In order to increase awareness of NCW and infuse new ideas, other operational commanders must participate in the experiments. This is extremely important since this involvement will help to shape the future of warfighting. The experimenters can test the systems against criteria they have established based on their experiences in their part of the world. They can challenge the results and require improvements. Additionally, as they bear witness to the increased capabilities NCW brings, they will become promoters.

In relation to the co-evolution of NCW doctrine and organization, again, U.S. Joint Forces Command should take the lead. This command is assigned to consolidate and recommend changes to doctrine, organizations, personnel, education and training, and leader development.³⁴ It can do this best by working with the other operational commanders. They can create an environment which is conducive to innovation, encouraging people to think in

new ways, to not be restrained by today's mode of operations. The operational commanders can then lead the testing of the new concepts and record results. With experimentation, for example, operational commanders can test different command and control structures. Only after integrating the changes in organization and doctrine in various manners will the operational commanders be able to evaluate the effectiveness and efficiency of the diverse combinations.

Operational commanders must participate in the experimentation stages (concept development, refinement, and implementation)³⁵ in order for the product to be robust. This is not to say that every operational commander must be involved with every experiment. That would be unmanageable and slow down the pace of experimentation to a crawl. However, it is important for diverse groups of people to be involved to present different perspectives and ensure interoperability in a variety of cases.

Interoperability must extend to coalition partners as well. Operational commanders know this well. In the U.S. Central Command-directed Exercise Bright Star of October 1999, the United States was not able to fully utilize or test some of its NCW systems, as the eleven other nations that participated had not invested in the same technologies. These nations cited affordability as the reason.³⁶ Coalition interoperability will be an area that operational commanders must consider when providing their input to the distribution channel.

Promotion

Promotion is the fourth marketing mix variable, and the one that most people think of when they hear the word marketing. It consists of the communication of information between the seller and buyer to influence attitudes and behavior. Basically, promotion is the means to convince customers that the product, price, and place provide a combination that is what they want. Various methods for promotion include personal selling, mass selling (advertising and publicity), and sales promotion.³⁷ Recall that NCW is classified as an

industrial installation good, meaning it is a durable capital item. As such, it requires its advocates to use personal selling to persuade the operational commanders to help with implementation.

Personal selling means that the NCW advocates must communicate directly with the operational commanders, face to face. In this manner, advocates can tailor their message to the operational commanders, get immediate feedback, and adapt that message immediately as needed. In general, to convince the operational commanders of NCW's worth and gain their support in implementation, advocates should concentrate on the operational benefits NCW provides: improved "shared awareness, increased speed of command, higher tempo of operations, greater lethality, increased survivability, and a degree of self-synchronization."³⁸ The bottom line is that NCW delivers increased combat power. What operational commander would not want that? To increase their success in selling the operational commanders on NCW, advocates should not only explain but demonstrate these positive attributes. Further, as the operational commanders perform at the operational level, not the tactical level, advocates should de-emphasize the technical details of the new technology (grids, information backplane, etc.) and stress the continued criticality of people.

To give the operational commanders a better sense of what NCW can do and put them more at ease with the technology, advocates should demonstrate some piece of NCW technology immediately, even if it is a simulation on the computer. Keep the demonstration simple and user friendly. Then have the commanders try their hand at the technology, not just once, but several times. There will be a learning curve, so with use, they will become more proficient and comfortable.³⁹

Even more importantly, advocates should stress that NCW technology alone does not increase combat power. That comes from people basing decisions on superior information. NCW seeks to provide the individual with more relevant, timely, and accurate information. It is still the individual who must choose to act in one way or the other. With a greater awareness of the battlespace, the actors can make more informed decisions. Through the

supporting changes in doctrine, organization, education, and training, NCW will enable actors to be more effective. They will be able to spend more time shaping the battlespace rather than countering the enemy's unanticipated moves.⁴⁰ Thus it is the people that are key to NCW.

Advocates must put the operational commanders in charge and appeal to their leadership. The operational commanders must feel that their comments are being listened to, that they have a say in the way NCW is progressing. NCW is not a finished product, and there will undoubtedly be problems to overcome along the way. That is why their participation in the whole development process is essential. The process must demonstrate that it can handle input and critiques in a positive manner. It must document every concern. Operational commanders must then also help to provide solutions. Just as NCW's capabilities grow, so too will the operational commanders' trust. Involving these leaders from the start will make them feel they have equity in NCW; it is their product. Hence, even though the role of the operational commander will undoubtedly change, they will still be enthusiastic about these changes.

Advocates must convince operational commanders to help sell NCW throughout their commands. Implementing NCW will take a total military/joint effort. Teamwork is essential. The operational commanders' subordinates will be key in identifying the necessary physical NCW requirements and experimenting with/testing the tactical system components. Operational commanders can first raise their subordinates' awareness through mass selling, utilizing the agreed-upon brand name. They can use both advertising (paid non-personal presentation) and publicity (unpaid non-personal presentation). Their pitches would shift focus to the meet the profiles of the more junior personnel. Specifically, they would emphasize the advantages for the tactical players and more of the technological features but in simple terms, without reference to a lot of buzzwords, which tend to distance many junior personnel. At this introductory phase of NCW, no publicity is bad publicity. Even non-believers who wish to debate their views are making other people aware of NCW.

Open debate may lead to new avenues of approach. Operational commanders must welcome such discussions, foster innovative environments, and challenge members for resolutions.

CONCLUSION

The Navy has created an innovative concept to fight wars and deal with operations other than war. Unfortunately, network centric warfare remains a Navy premise that is not well recognized or accepted by its own members or those of the other services. In order to be effective, NCW must transition from a Navy concept to a joint product. Advocates can effect this transition by using basic business principles to market NCW. They can tailor a solid mix of product, price, place, and promotion to target and win over operational commanders. This is the first and most vital step to successfully introduce NCW as the way of the future.

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